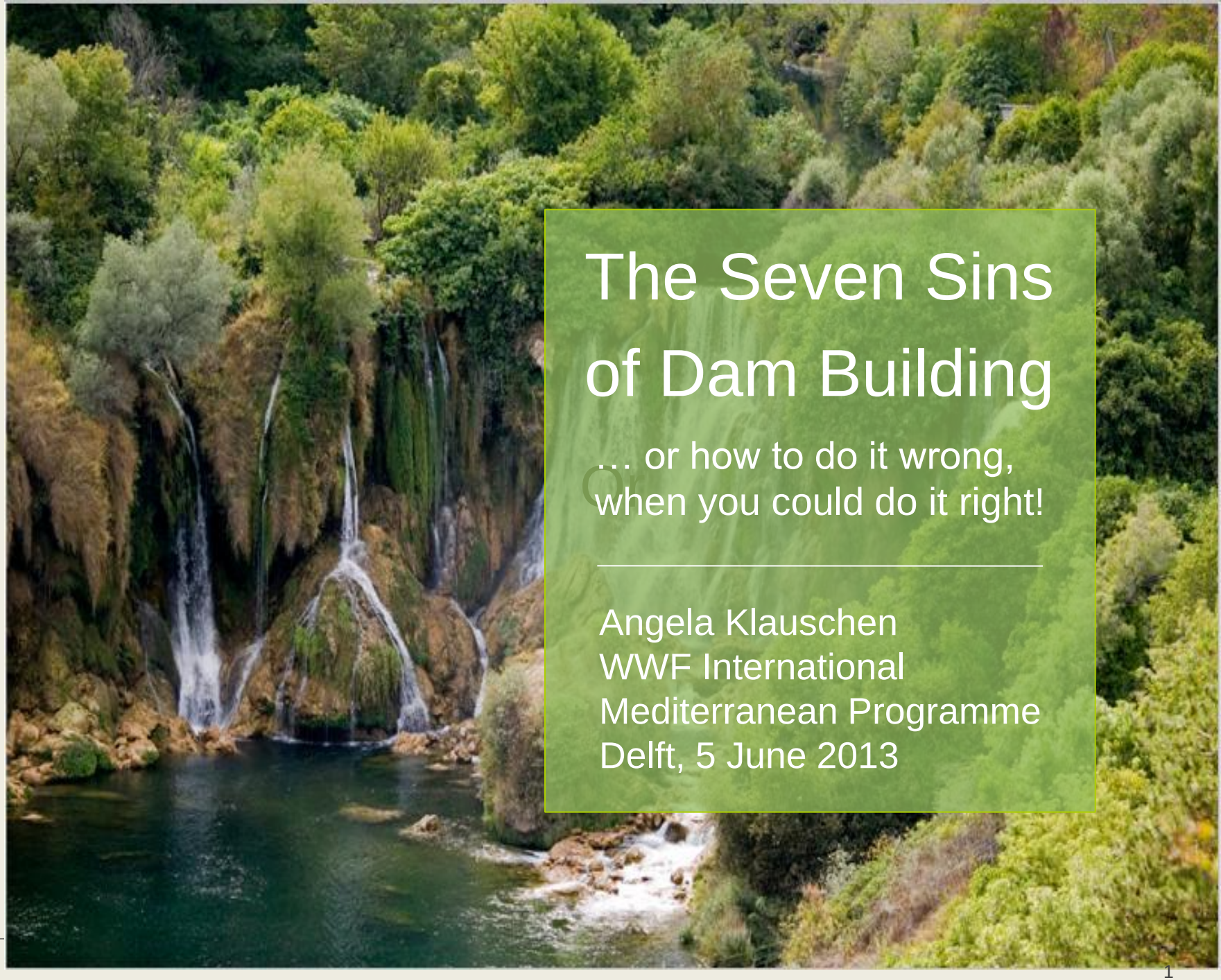
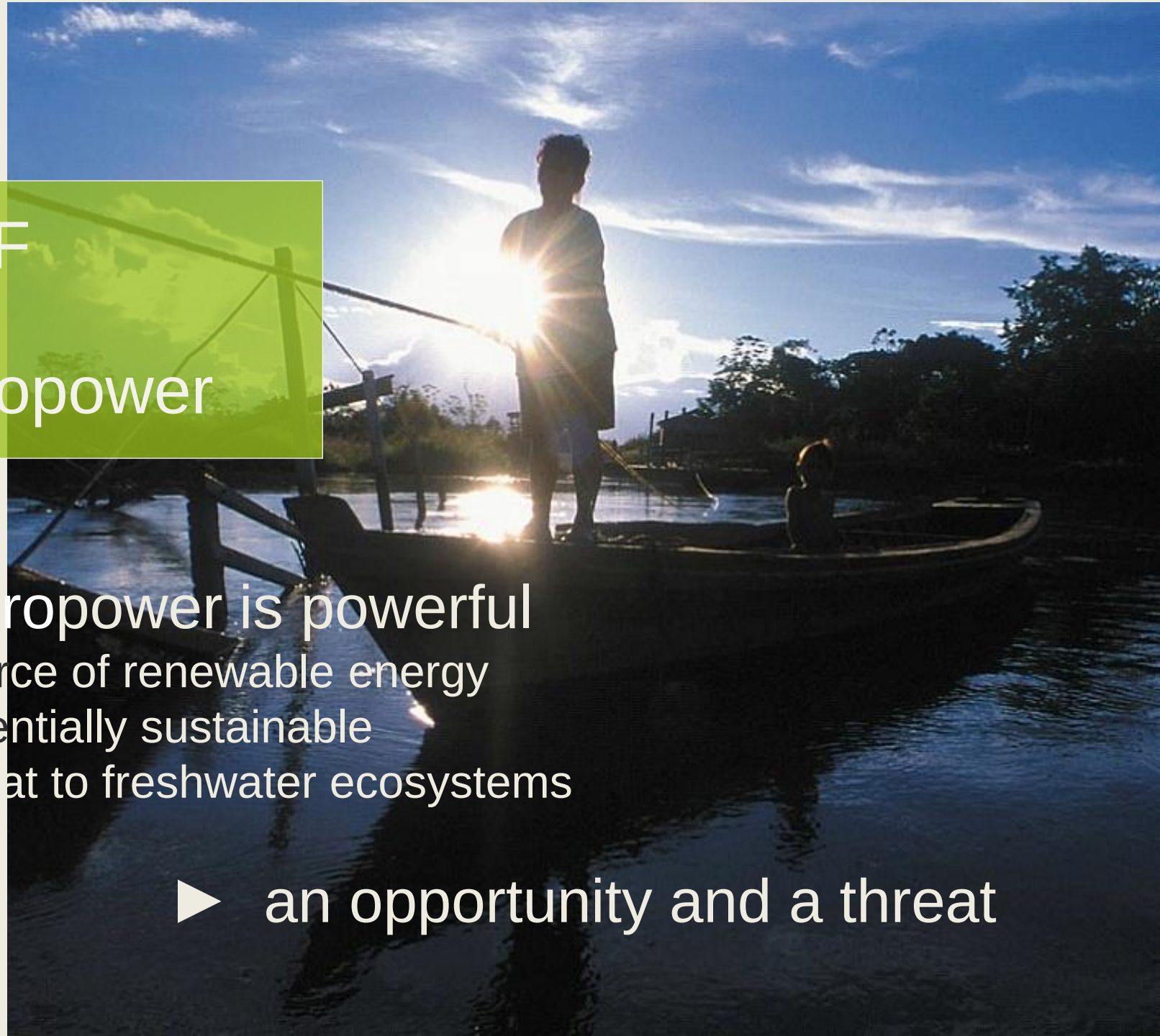


The Seven Sins of Dam Building

… or how to do it wrong, when you could do it right!

Angela Klauschen
WWF International
Mediterranean Programme
Delft, 5 June 2013

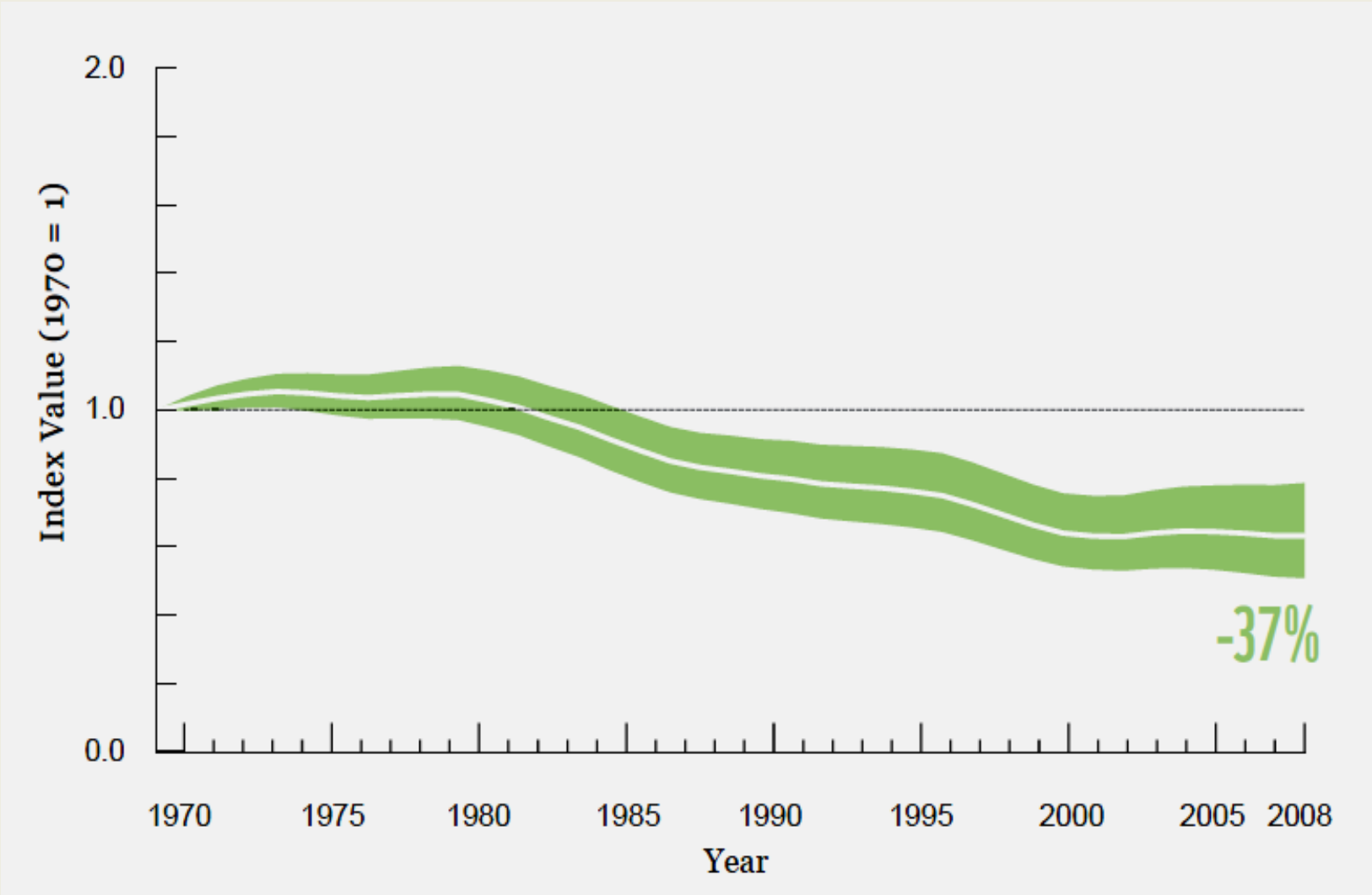
WWF and hydropower



Hydropower is powerful

- source of renewable energy
- potentially sustainable
- threat to freshwater ecosystems

► an opportunity and a threat



The Living Planet Index (LPI) for global freshwater species and populations has declined by 37% in 38 years between 1970 and 2008 – a larger decline that for any other biome - and for tropical regions there has been an even greater (70%) decline


Destruction of rivers, wetlands, & biodiversity
Decline in ecosystem services
Damage to human livelihoods

Ecosystem goods and services

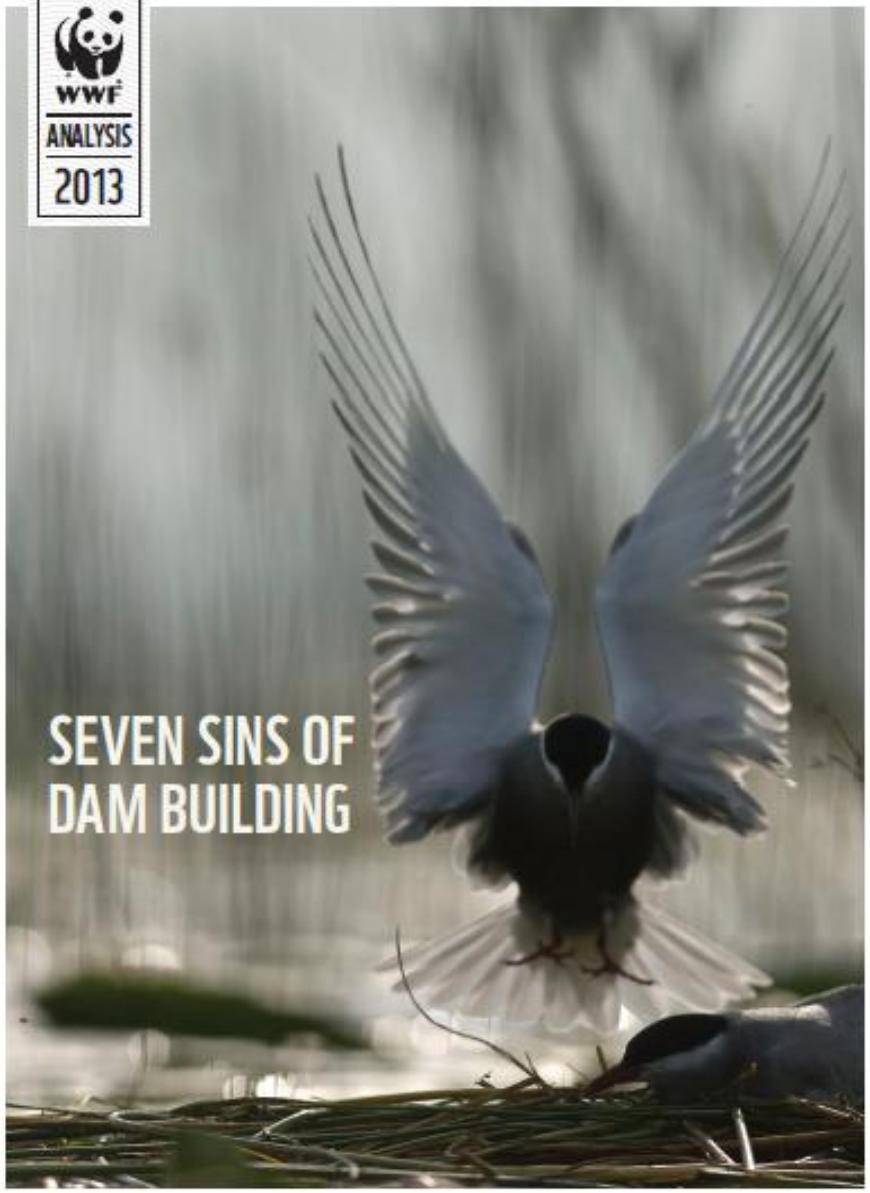
- foods production
- drinking water supply
- agricultural water supply
- groundwater recharge
- water quality restoration/regulation
- economic goods
- cultural / heritage / spiritual services
- floodplain storage
- river delta / estuary protection
- coastal and marine systems ..

River flows. Environmental flows. Free flowing rivers

Intact freshwater ecosystems are fundamental

What can go wrong?

- Building on the wrong river
- Neglecting downstream flows
- Neglecting biodiversity
- Mishandling risks and impacts
- Falling for bad economics
- Failing to aquire the social license to operate
- Falling for the bias to build



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← WWF's core mission!

Identification of conservation priorities for sustainability and development

Where lie the freshwater ecosystem asstes (valuable, unique, irreplaceble) ?
-> NoGo areas

Which freshwater systems can be sustainably utilized, and in which way?

Basin-wide / regional / transboundary cooperation

Precautionary principle,
no-regret solutions

Avoid, minimize, mitigate impacts.
In this order.

Photo: TNC / US Army Corps of Engineers

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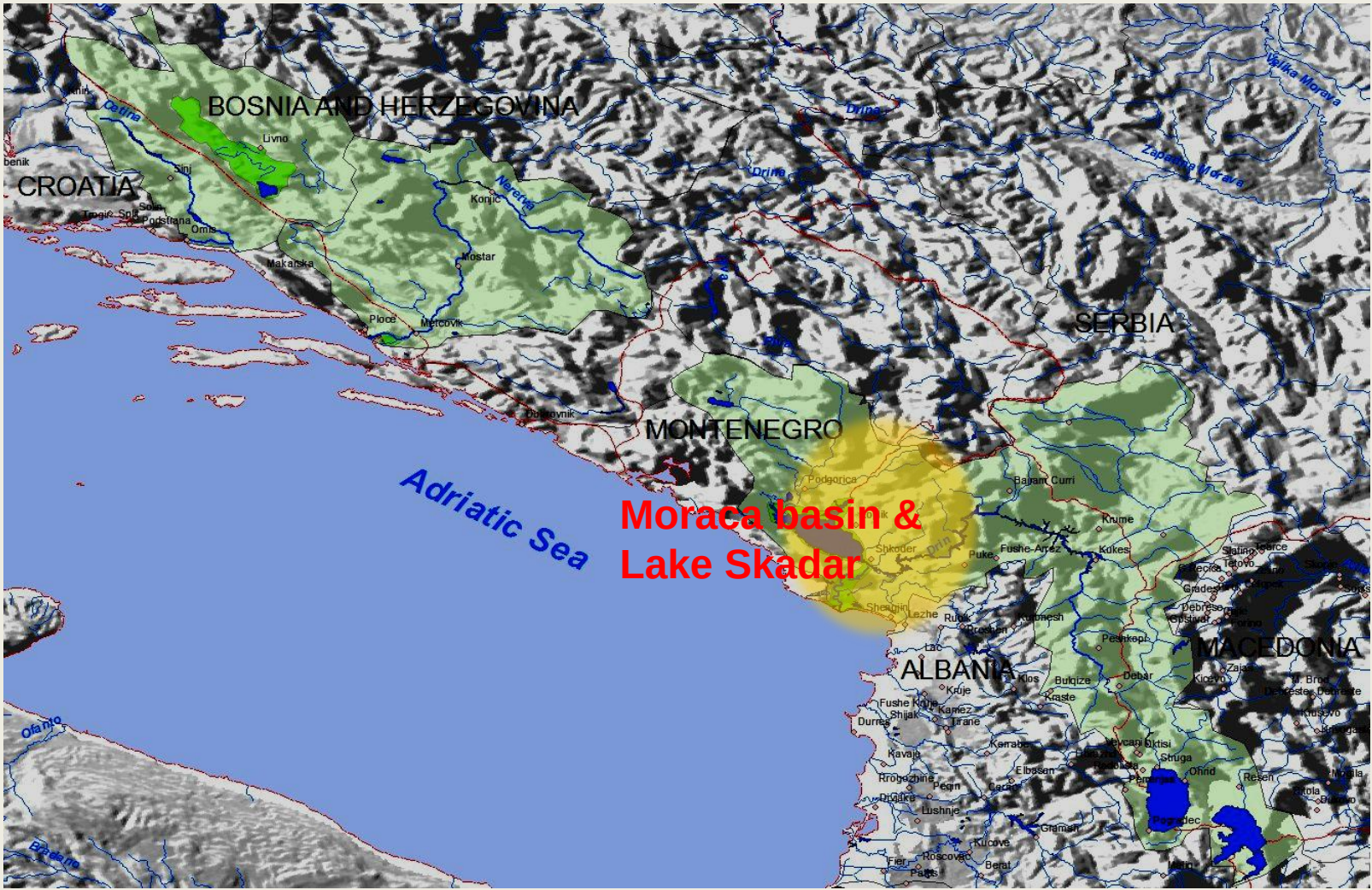
← WIN/TI mission...

Moraca hydropower cascade, Montenegro.. A case of multiple wrong doings



Moraca hydropower cascade, Montenegro... - Characteristics:

River: Morača, Montenegro

River characteristics: 113 kilometers length, one of the last free-flowing rivers in Europe

Purpose: Hydropower

Type of project: Cascade of four dams, 238 MW installed capacity

Status of project: Planned

Ecosystems affected: Lake Skadar, the largest lake in the Balkan peninsula and a Ramsar site + 2 canyons upstream, the Mrtvica and Mala Rjeka

Moraca hydropower cascade, Montenegro... - Its sins...

No.1 Neglecting downstream flows: insufficient measure foreseen to avoid affecting flows downstream of the cascade and thus Lake Skadar → would critically change the seasonal variability of the lake's water level.

- No.2 Neglecting biodiversity: Lake Skadar (Ramsar site), a critical wintering and staging site for migratory birds/waterfowl, one of the most important bird and fish habitats in the Mediterranean region + partly flooding of 2 highly biodiverse canyons, Mrtvica and Mala Rjeka upstream, habitat of brown trout (*Salmon trutta*) and the rare endemic Marble trout

- No.3 Mishandling risks and impacts: seismic risks insufficiently explored and assessed

Moraca hydropower cascade, Montenegro... - Its sins...

- **No.4 Falling for bad economics:** study by an NGO with economic expertis showed that many costs where underestimated, while benefits overestimated

- **No.5 Failing to aquire the social license to operate:** public insufficiently consulted, numerous CSOs, fisher communities opposing the project

- **No.6 Falling for the bias to build**: plans existing since the 1960s, monumental project that one person would like to carve his name in... as his legacy to the world..

WWF's chosen approach to the issue

- Promote the Hydropower Sustainability Assessment Protocol with private sector and IFIs active in the various regions as a tool of choice to improve sustainability on a voluntary basis

- Work with Transparency International and other like-minded CSOs – e.g. in SEE, development of a strategic alliance/partnership to promote sustainability and integrity in the water and energy infrastructure sector

Thank you

www.panda.org/mediterranean

WWF IN SHORT

+100

WWF is in over
100 countries, on
5 continents

+5,000

WWF has over
5,000 staff
worldwide

1961

WWF was founded
In 1961

+5M

WWF has over
5 million supporters

Photo: © NASA